

etc. At Chai-yong they have between 300 and 400 men and have thrown up earthworks. This is a town on the road from Seoul, and may be regarded as a picket station. At Pongshan they have about 1,500 men who are strongly entrenched. This is the place where they had the misfortune to encounter the so-called tiger hunters. At Hwangju the main body of the army is encamped, about 12,000 men. They are fortifying themselves strongly and have large quantities of provisions and stores. At a village called Chyello, about 20 li to the west of Hwangju, there are also about 1,000 men, who are entrenched. At Pyeung-nan, there are between 300 and 400 men, and at Keumchun there are 300. At Chyungchun there are about 5,000, who are encircling themselves. Outside the walls of Ping-yang the Japanese are reported to have placed heavy artillery to cut off the Chinese retreat, and on the 16th an engagement is reported, in which the loss on both sides was between 400 and 500, but the Japanese up to the 19th had not yet entered Ping-yang.

The Chinese have not much food in the city, and no doubt they will either be starved out or there will be a fight. The Japanese are no doubt trying to take the city by cutting off all supplies. They have also cut the wire at the back of the Chinese, so that there is no communication with China. In the above account I have given the condition of affairs as I received it from the special messenger, not vouching for the truth of it, but only adding that he is a man who is at least as trustworthy as, and in my opinion much more so, than the usual Japanese official accounts.

On the 2nd of September fifty Korean soldiers were sent out to the Japanese army. They were put in front to point out the way. When they arrived at Syebung seven of them deserted. At Pongshan twelve more deserted, whereupon the Japanese wired back to Seoul to have them arrested if they returned to their homes. This "deserted more from deserting until they found out that the Japanese army determined to take the Chinese at Ping-yang, and then not retreating a front place in the army when they attacked the place, they all deserted without exception. Strange to say the Japanese cannot understand why the Koreans do not appreciate their efforts at reforming the country, and making it independent. The Prefect of Syebung, on hearing of the approach of the Japanese, sent word to the people to desert all their horses, oxen, etc. This was done, and the people all left excepting a very few. When the Japanese arrived the usual demand for a certain number of oxen, fowls, eggs, etc., was made, but there were none in the place, where upon the magistrate was promptly beaten, but notwithstanding this he remained firm.

The Japanese have brought a hospital ship which is anchored off Chemulpo. Two extra hospitals have been built in the Japanese cemetery. I suppose they chose this place to avoid unnecessary work. The sick and wounded from the north have heretofore been landed at the jetty publicly, but of late they avoid this and land them at the back of the jetty, going round the Sill-mient. As there are a number of coolies quartered in the Settlement, they evidently wish to have it as private as possible. There are not very many patients in the hospitals at present, most of them having been sent away to Japan.

The fact remains that the Japanese are pushing men to the front and are more transported here, a distance of 150 miles from Ping-yang, if both the Chinese fleet and land forces have been defeated. The Japanese posters are to the effect that 20,000 Chinese and 300 Japanese have been killed and they still remain on the gates of Seoul, each guarded by a Japanese picket. This of course is the only reason that they remain. One Chinese prisoner has been taken in the foot. We therefore know that one Chinese prisoner has been taken.

—N. C. Daily News

MOURDEN.

(FROM A CORRESPONDENT.)
The Chinese and Manchou troops have been driven out of Ping-yang. The Japanese have certainly displayed in this matter a military skill for which one was scarcely prepared after Asia, and the Chinese were caught in a trap which outbalances the credit due to General Yeh for his clever march. The Chinese had men watching the Japanese force in front of them and seeing no evidence of any immediate attack, they prepared themselves to enjoy the feast of the fifteenth, so great a day for the Chinese. But on the preceding day they found Japanese guns levelled at them from the hills, whence they never anticipated attack. These guns commanded the whole entrenched camp as well as the city of Ping-yang. They also covered the road from the north, so the Chinese were very much in the position of the French at Sedan. They fought, however, on the 14th and again on the 15th. General Tso thought his men were firing his guns too slowly, so he mounted the rampart himself and directed the fire. While thus engaged Japanese soldiers in Chinese dress came quite close to where he was making his gallant stand and a bullet cut him down. His men fled. Where General Yeh and Feng are is unknown, but the Japanese are now occupying Tiegny, 200 li east of Wiji on the Yaloo. A number of the broken army, seeing their rifles with them, found their way into Wiji where they are now. It appears that the bulk of the large numbers of men are still on the west bank of the Yaloo where all the cavalry are stationed. This remarkably able manoeuvre of the Japanese has thrown all Korea virtually into Japanese hands. As there are men in town who fled from Ping-yang they are not inclined to doubt the crushing defeat of the Ping-yang army.
The sentence passed on those concerned in the murder of Mr. Wylie is that one man to be executed, four banished, Yi Sheng and two captives degraded. With the exception of the banishment this sentence has been carried out. The man who acknowledged that he did the deed was strangled, a man thrown over the body, which was officially examined and pronounced dead on the third day, and handed over to the friends for burial. This mode of punishment, lighter than beheading, was probably due to the fact that he and his fellows were Manchus. The three degraded officers are living in privacy in an inn awaiting the final sentence from Peking.—N. C. Daily News.

THE SOLAROMETER.

FIRST IMPROVEMENT ON THE COMPASS AND SIXTY-THREE IN 300 YEARS.

An instrument that will in large measure revolutionize navigation has just been constructed in Washington. The instrument is the solarometer, and its inventor is Lieut. W. H. Beahm, of the United States Navy, who has been working on the device for six years. It has been tried on shipboard, and given good results without adequate protection from atmospheric influences, and the recent trip which Lieut. Beahm made to Europe was authorized by the Secretary of the Navy, and it was thought, with the new housing to the instrument, will finally establish its usefulness in practical service.

The solarometer is really the first practical improvement over the compass and compass that has been made in the past 300 years, and it comes at a time when some improvement was

these old and a satisfactory method was becoming absolutely imperative. A technical description of the instrument is impossible, but it is sufficient to say that by arrangement of polar and zenith circles on which are mounted a moving telescope the observer's position and time may be ascertained from an observation of the sun or of any bright star at any hour of the day or night.

As the case now stands, and has stood for generations, absolute astronomical determinations of a vessel's position at sea are made by means of the sextant only. Altitudes of the sun or other heavenly bodies are measured with this instrument, and from these observations the observer's latitude and longitude are deduced by elaborate logarithmic calculations. For longitude observations the body observed must be near the horizon, while for latitude observations it must be near the zenith. These conditions can rarely be obtained by a star, and the sun is often obscured for days just at the times when observations would be possible with the sextant. With careful account of a ship's run over a well-known track at a regular rate of speed and with carefully-adjusted compasses, it is possible for an experienced captain to estimate his position with some degree of accuracy. If the sun were obscured for one day only, it might be possible to ascertain his position with a circle of 20 miles in diameter, but if the sun be obscured for several days there is little dependence to be placed on a dead reckoning.

This is especially so with the modern iron and steel ships, in which the compasses, without frequent comparison and adjustment to some known standard, are absolutely worthless. In an east and west run of a day or two an iron cruiser will be so affected by the polarization from the earth's currents that the compasses will swing out even of the line of calculated error, and when the ship's course is changed will be found to be utterly valueless. These constant changes in the magnetic properties of a ship's hull are constantly going on, even when she lays up at her wharf at the end of a run, and the astronomical observations necessary to correct the compass's error are involved in so many possibilities of error that they are, to say the least, extremely unsatisfactory.

The solarometer is designed to obviate all this trouble, for it not only determines the ship's position at any time when the sun or a star is visible, but the same simple observation suffices to fix the compass's error to a certainty.

The instrument is a delicate and beautiful piece of work. It is now in the yard of Saegmuller's instrument shops, near 2nd and B. streets, south-west, where it has been visited by many naval officers and practical navigators, who have expressed great satisfaction at the ease and certainty with which they were enabled to locate the latitude and longitude of Mr. Saegmuller's back door. It is encased in a little steel-iron house like the conning tower on a torpedo boat. This tower has a revolving cupola, with a sliding door to afford wind protection. To compensate for the rolling of the ship the instrument is mounted on a very ingenious stand. A great portable instrument is long on gimbals like a ship's compass, and inside of this floats another spherical kettle filled with mercury, in which floats the third kettle that bears the solarometer.

The gross disturbance from the pitching of the ship is taken up by the gimbals, while the two remaining floating shells in the mercury reduce the instrument to a dead level in spite of the wildest rolling and pitching, the only limit to observation being the observer's power to keep his feet and keep his eye on the telescope. The telescope is a tiny affair, not more than three inches long, and for night observations the cross hairs are illuminated by tiny incandescent lights. The telescope is so mounted on its slides that its movement will be in the same plane as the path of the heavenly body, being observed from rising to setting, and adjusted to the observer's latitude and the declination of the body as given in the nautical almanac.

The solarometer is not a cheap instrument, one costing about \$1,000 in labour and material alone, but this is a mere nothing compared to the loss of life and property that will be prevented by its adoption.—Washington Post.

BITS OF INFORMATION.

There are 25,000 species of fish.
Buckingham Palace cost \$30,000,000.
The City Hall, Philadelphia, has thus far cost over \$16,000,000.

Tobacco was so called from the West Indian island of Tobago.

In 1657 the site of the city of Boston, Mass., was sold for \$150.

The largest pumps in the world are used in the sewers of London.

The population of this Continent is estimated at 121,000 inhabitants.

The Egyptians embalmed more than twenty kinds of beasts and birds.

The breaking strain of an inch rope is estimated at 9,000 pounds.

The greatest bill in the world, that of Moscow, has never been paid as a bill.

The earliest reaping hook was the lower jaw of an antelope lashed to a stick.

An oculist says that scarcely one in twenty of watchmakers suffer from weak eyes.

America is 9,000 miles long, and its area is estimated at 15,600,000 square miles.

The Constitution, launched in 1797, is the oldest ship in the United States Navy.

The earliest date upon which Easter may fall is March 22nd, and the latest April 25th.

On the march European troops are a rung out in the proportion of 3,000 men to the mile.

"Esop's Fables" was the first book published in England, in 1484, with numbered pages.

Out of 118,450 men enlisted for the war in Indiana 11,391 were six feet in height or more.

Soll in Egypt is filled by exactly the same kind of plough as that used 3,000 years ago.

A long, strong thumb, states an authority, indicates great will power and force of character.

One-third of the people of New York live in tenement houses and are in a deplorable condition.

The best trotting record for twenty miles is 57 minutes and 25 seconds. The best 20-mile record for a bicycle is 45 minutes and 7 seconds.

The arm of King Henry I. was thirty-six inches long. This is the reason why the English and American yard is three feet long.

Drunkennes is very rare in Rio Janeiro, the cause being that the people drink coffee to the almost entire exclusion of alcoholic beverages.

The man who invented ice-cream was a negro by the name of Jackson, who, in the early part of the present century kept a small confectionery store.

A woman 5 feet in height should weigh about 100 pounds; 5 feet 1 inch, about 105; 5 feet 2 inches, 110; 5 feet 3 inches 115; 5 feet 4 inches, 120 pounds.

The longest single span in any existing bridge is represented by the two cantilevers of the Fifth of North structure, in Scotland, which is 1,710 feet in length.

In certain parts of Africa cows rate higher in the market than women do. Among the Masai a woman is worth only five large glass beads, while a cow is worth twice that number.

CHINA COAST METEOROLOGICAL REGISTER.

8th October, 1894.—At 4 p.m.

STATION	Bar.	Therm.	Wind.	Dir.	Force.	Cloud.	Rel. Hum.	State.
Whitlock	30.15	61	...	...	...	...	...	...
Tokio	30.15	61	...	...	...	...	...	...
Nagasaki	30.15	61	...	...	...	...	...	...
Shanghai	30.15	61	...	...	...	...	...	...
Foochow	30.15	61	...	...	...	...	...	...
Amoy	30.15	61	...	...	...	...	...	...
Swatow	30.15	61	...	...	...	...	...	...
Canton	30.15	61	...	...	...	...	...	...
Shanghai	30.15	61	...	...	...	...	...	...
Amoy	30.15	61	...	...	...	...	...	...
Swatow	30.15	61	...	...	...	...	...	...
Canton	30.15	61	...	...	...	...	...	...
Shanghai	30.15	61	...	...	...	...	...	...
Amoy	30.15	61	...	...	...	...	...	...
Swatow	30.15	61	...	...	...	...	...	...
Canton	30.15	61	...	...	...	...	...	...

9th October, 1894.—At 4 a.m.

STATION	Bar.	Therm.	Wind.	Dir.	Force.	Cloud.	Rel. Hum.	State.
Whitlock	30.15	61	...	...	...	...	...	...
Tokio	30.15	61	...	...	...	...	...	...
Nagasaki	30.15	61	...	...	...	...	...	...
Shanghai	30.15	61	...	...	...	...	...	...
Foochow	30.15	61	...	...	...	...	...	...
Amoy	30.15	61	...	...	...	...	...	...
Swatow	30.15	61	...	...	...	...	...	...
Canton	30.15	61	...	...	...	...	...	...
Shanghai	30.15	61	...	...	...	...	...	...
Amoy	30.15	61	...	...	...	...	...	...
Swatow	30.15	61	...	...	...	...	...	...
Canton	30.15	61	...	...	...	...	...	...
Shanghai	30.15	61	...	...	...	...	...	...
Amoy	30.15	61	...	...	...	...	...	...
Swatow	30.15	61	...	...	...	...	...	...
Canton	30.15	61	...	...	...	...	...	...

Hongkong Observatory, 9th October, 1894.

HONGKONG REGISTER.

Previous day 4 p.m.	On 9th at 4 a.m.	On 9th at 4 p.m.
Barometer	30.07	30.04
Thermometer	71	70
Humidity	71	70
Direction of wind	1	0
Force	0	0
Weather	0	0
Rain	0	0

Highest open air temperature on the 8th.....74
Lowest open air temperature on the 8th.....50
At 4 p.m. Black Ball taken down.....F. G. Foon, First Assistant.

Hongkong Observatory, 9th October, 1894.

HONGKONG TEMPERATURE.

	Previous day 4 p.m.	On ^{the} date at 10 a.m.	On date at 4 p.m.
Barometer	29.97	30.04	29.93

